

REMARKS

This responds to the Office Action mailed on June 5, 2007.

No claims have been canceled, amended, or added. As a result, claims 1-36 are now pending in this application.

For the convenience of the Examiner, Applicants' remarks concerning the claims will be presented in the same order in which the Examiner presented them in the Office Action.

Supplemental Information Disclosure Statement

Applicants respectfully request that a copy of the 1449 Form, listing all documents that were submitted with the Supplemental Information Disclosure Statement filed on May 15, 2007, marked as being considered and initialed by the Examiner, be returned with the next official communication.

**Rejection of Claims 1-36 Under
35 U.S.C. §112, First Paragraph**

Claims 1-36 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

The Examiner asserted that in independent claims 1, 9, 17, 22, 27, and 32, the limitation of the “second workflow engine alone completes the workflow” is not supported in the Specification.

Applicants respectively assert that there is proper support in the Specification for an embodiment in which a second workflow engine alone completes the workflow. For example, the original Specification states:

Only one healthy instance of an alternate workflow engine is required to exist. Such alternate workflow engine can pick up the client-originating request that failed to be returned by an earlier assigned workflow, and it can complete processing of such request and then inform confirmation manager 64 to send an acknowledgement message ACK; to the client that originated the request.¹

¹ Specification, page 8, beginning line 27.

The above statement that “only one healthy instance of an alternate workflow engine is required to exist; that such alternate workflow engine can pick up the client-originating request that failed to be returned by an earlier assigned workflow; and it can complete processing of such request” is clearly the equivalent of reciting that the “second workflow engine alone completes the workflow”.

For the above reason, Applicants respectfully request that the rejection of claims 1-36 under 35 U.S.C. §112, first paragraph, be withdrawn.

NOTICE: If the Examiner sustains the Final Rejection of the claims in an Advisory Action, the following Remarks will appear in Applicants' Pre-Appeal Brief Request for Review to be filed with Applicants' Notice of Appeal.

**Rejection of Claims 1-36 under 35 U.S.C. §103(a)
as Unpatentable over Campbell in view of Sasou
and further in view of Bacon**

Claims 1-36 were rejected under 35 U.S.C. §103(a) as being unpatentable over Campbell et al. (U.S. 2001/0024497 A1) in view of Sasou et al. (U.S. 5,463,208) and further in view of Bacon et al. (U.S. 2002/0052771 A1). Bacon was first made of record and applied by the Examiner in the Final Office Action.

First, Applicants do not admit that Campbell and Bacon are prior art, and they reserve the right to swear behind these references in the future.

Secondly, since a *prima facie* case of obviousness has not been established, Applicants respectfully traverse this rejection.

The Examiner has the burden under 35 U.S.C. §103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988).

The References Do Not Teach All Claim Limitations.

Regarding claim 1, for example, Applicants assert that none of the applied references teaches the following limitation:

only if a workflow is successfully completed by a first workflow engine for an execution-requesting client, sending an explicit and delayed acknowledgement to the execution-requesting client, else assigning the workflow to a second workflow engine by sending it a work assignment message, in response to which the second workflow engine alone completes the workflow

The Examiner concedes that Campbell fails to explicitly teach sending an explicit and delayed acknowledgement to an execution-requesting client only if a workflow is successfully completed by a first workflow engine, else assigning the workflow to a second workflow engine by sending it a workflow assignment message.

Sasou discloses a main CPU 102 (FIG. 1) and a series of sub-CPU's 141A, 142A-B, and 143A (FIG. 1). The plurality of sub-CPU's independently execute a series of tasks set in advance in accordance with a predetermined sequence (see Abstract). A notification section in the last sub-CPU supplies a processing completion signal indicating completion of the series of tasks to the main CPU when the last task is completed. It is noted that each sub-CPU always performs the same unique task, and that there is just one sub-CPU to perform such unique task. It is further noted that sub-CPU 142B always sends a notification signal 30 to the next sub-CPU 143A, whether recording is successfully completed on the card 105 or not (see column 5, lines 50-58).

This is in sharp contrast to Applicants' claim 1, for example, in which a notification, in the form of an explicit and delayed acknowledgement, is sent to the execution-requesting client only if a workflow is successfully completed by a first workflow engine, otherwise assigning the workflow to a second workflow engine by sending it a work assignment message.

Applicants' method is more efficient than that of the Examiner's proposed combination of Campbell and Sasou, because in Applicants' method the execution-requesting client is not bothered with workflow failure messages. Instead, in Applicants' method another workflow engine is assigned to process the workflow in a manner that can be completely transparent to the execution-requesting client.

The Examiner concedes that Campbell and Sasou are silent on assigning workflow to a second workflow engine by sending it a work assignment message if the first workflow is not completed, wherein the second workflow engine alone completes the workflow.

The Examiner asserts that Bacon teaches one or more workflow engines that cooperate with each other to determine whether subsequent activity is needed to complete the activity and

then make the assignment to complete the workflow. The Examiner further asserts that it would have been obvious to modify Campbell and Sasou with Bacon, because it improves coordination and cooperation among workflow elements in order to efficiently complete workflows.

Bacon discloses a workflow management system (see Abstract). A server 110 (FIG. 1) includes a pair of workflow engines 115a/115b. It is noted that in Bacon the function of workflow engines 115 is to schedule the sequence of activities of a given process (see Paras. 0032 and 0055). In Bacon, the workflow activities are actually performed by an agent 120 or client 130 (see Paras. 0032 and 0055), not by workflow engines 115. Thus, in Bacon the term “workflow engine” has a totally different meaning than in the present application. In Bacon, “workflow engine” means a scheduler and router, not a computer system to execute the workflow, as is the case in Applicants’ subject matter.

Applicants’ specification states, for example:

Still referring to FIG. 3, using a commercially available middleware product, such as TIB, each workflow can be assigned for execution on a separate computer system, also referred to herein as a “workflow engine”. Each workflow engine includes an instance of the application software module(s) necessary to execute any workflow to be performed by it.²

Applicants’ specification further states:

Workflow 72 performs one or more tasks to carry out the desired client-requested function(s).³

Clearly, Applicants’ workflow engine performs all tasks to complete a workflow, whereas in Bacon the workflow engines are mere schedulers and routers to an agent 120 and/or client 130, which are to perform the scheduled activity (see Para. 0032 of Bacon).

Thus, as is the case with Campbell and Sasou, Bacon too fails to disclose assigning workflow to a second workflow engine by sending it a work assignment message if the first workflow is not completed, wherein the second workflow engine alone completes the workflow, because in Bacon the workflow engines do not execute or perform the workflow, so they cannot possibly “complete the workflow”.

² Specification, page 6, beginning line 22.

³ Specification, page 8, lines 1-2.

Not only is Bacon totally lacking in any second workflow engine that “completes the workflow”, Bacon is also totally lacking in any second workflow engine that alone completes the workflow. Applicants’ claimed subject matter is clearly different.

No Prima Facie Case of Obviousness Has Been Established.

Thus, Applicants assert that a *prima facie* case of obviousness has not been established, because the references, whether considered individually or combined in the manner suggested by the Examiner, fail to disclose all of the elements as recited in Applicants’ claims.

For the above reasons, independent claim 1 should be found to be allowable over any combination of Campbell, Sasou, or Bacon, and Applicants respectfully request that the rejection of claim 1 under 35 U.S.C. §103(a) as being unpatentable over Campbell in view of Sasou and Bacon should be withdrawn.

If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious.⁴

Claims 2-8, which depend from claim 1, directly or indirectly, and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Independent claims 9, 17, 22, 27, and 32 recite similar limitations to those recited in claim 1, so they should likewise be found patentable over any combination of Campbell, Sasou, and Bacon. Further, all of the claims dependent, directly or indirectly, from independent claims 9, 17, 22, 27, and 32 should also be found allowable.

Response to the Examiner’s Arguments

The Examiner asserts that Applicants defined “explicit and delayed acknowledgement” to be a notification when the final task is completed.⁵ This is true. The specification states:

“Explicit and delayed acknowledgement” is defined to mean a message signifying actual completion of a workflow (as opposed to mere assignment of the workflow to a workflow engine) and which message is not transmitted until completion of the workflow.⁶

⁴ MPEP '2143.03.

⁵ Final Office Action, Para. 27, p. 7.

⁶ Specification, page 10, lines 12-15.

However, Applicants assert that “actual completion of a workflow” is not the same as successful completion. Broadly reading Applicants’ definition of “explicit and delayed acknowledgement”, Sasou sends an “explicit and delayed acknowledgement” both when the workflow is successful and when it’s not, i.e. in either case, when it’s “actually completed”. See Sasou, col. 5, lines 41-49, describing how starting circuit 116 sends signal 29 to sub-CPU 142B when recording is completed, and it sends signal 29 with an error code to sub-CPU 142B when the conveyed card 105a is defective.

In contrast, Applicants’ independent claim 1 recites that the “explicit and delayed acknowledgement” is sent only if a workflow is successfully completed. This limitation appears in all of Applicants’ independent claims 1, 9, 17, 22, 27, and 32.

The Examiner also asserted that one of ordinary skill in the art would know if a task is finished completing, it is successful in completing the task.⁷ In response, Applicants point out that “completion” does not necessarily mean “successful completion”, as can be readily seen from the Sasou reference. There are clear advantages to Applicants’ system, in which the execution-requesting client is not bothered with workflow failure messages, over the systems disclosed by the art of record.

Additional Elements and Limitations

Applicants consider additional elements and limitations of the rejected pending claims to further distinguish over the cited references, and Applicants reserve the right to present arguments to this effect at a later date.

Conclusion

Applicants respectfully submit that claims 1-36 are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants’ attorney Ann M. McCrackin (located in Minneapolis, Minnesota) at (612) 349-9592 or Applicants’ below-signed attorney (located in Phoenix, Arizona) to facilitate prosecution of this application.

⁷ Final Office Action, Para. 27, p. 7.

RESPONSE UNDER 37 C.F.R. 1.116 – EXPEDITED PROCEDURE

Serial Number: 09/876,645

Filing Date: June 7, 2001

Title: FAULT-TOLERANT SYSTEM AND METHODS WITH TRUSTED MESSAGE ACKNOWLEDGMENT (As Amended)

Page 14
Dkt: 884.439US1

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

MINGQIU SUN ET AL.

By their Representatives,
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. Box 2938
Minneapolis, Minnesota 55402
(602) 298-8920

By / Walter W. Nielsen /
Walter W. Nielsen
Reg. No. 25,539